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|              |                                                                                                                                                     |                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| NEWS 1       | Web Page URLs for STN Seminar Schedule - N. America                                                                                                 |                                                                                                                   |
| NEWS 2       | "Ask CAS" for self-help around the clock                                                                                                            |                                                                                                                   |
| NEWS 3       | May 12                                                                                                                                              | EXTEND option available in structure searching                                                                    |
| NEWS 4       | May 12                                                                                                                                              | Polymer links for the POLYLINK command completed in REGISTRY                                                      |
| NEWS 5       | May 27                                                                                                                                              | New UPM (Update Code Maximum) field for more efficient patent SDIs in CAplus                                      |
| NEWS 6       | May 27                                                                                                                                              | CAplus super roles and document types searchable in REGISTRY                                                      |
| NEWS 7       | Jun 28                                                                                                                                              | Additional enzyme-catalyzed reactions added to CASREACT                                                           |
| NEWS 8       | Jun 28                                                                                                                                              | ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG, and WATER from CSA now available on STN(R)                  |
| NEWS 9       | Jul 12                                                                                                                                              | BEILSTEIN enhanced with new display and select options, resulting in a closer connection to BABS                  |
| NEWS 10      | Jul 30                                                                                                                                              | BEILSTEIN on STN workshop to be held August 24 in conjunction with the 228th ACS National Meeting                 |
| NEWS 11      | AUG 02                                                                                                                                              | IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields                                                  |
| NEWS 12      | AUG 02                                                                                                                                              | CAplus and CA patent records enhanced with European and Japan Patent Office Classifications                       |
| NEWS 13      | AUG 02                                                                                                                                              | STN User Update to be held August 22 in conjunction with the 228th ACS National Meeting                           |
| NEWS 14      | AUG 02                                                                                                                                              | The Analysis Edition of STN Express with Discover! (Version 7.01 for Windows) now available                       |
| NEWS 15      | AUG 04                                                                                                                                              | Pricing for the Save Answers for SciFinder Wizard within STN Express with Discover! will change September 1, 2004 |
| NEWS 16      | AUG 27                                                                                                                                              | BIOCOMMERCE: Changes and enhancements to content coverage                                                         |
| NEWS 17      | AUG 27                                                                                                                                              | BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC                             |
| NEWS 18      | SEP 01                                                                                                                                              | INPADOC: New family current-awareness alert (SDI) available                                                       |
| NEWS 19      | SEP 01                                                                                                                                              | New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!                           |
| NEWS 20      | SEP 01                                                                                                                                              | New display format, HITSTR, available in WPIDS/WPINDEX/WPIX                                                       |
| NEWS EXPRESS | JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004 |                                                                                                                   |
| NEWS HOURS   | STN Operating Hours Plus Help Desk Availability                                                                                                     |                                                                                                                   |
| NEWS INTER   | General Internet Information                                                                                                                        |                                                                                                                   |
| NEWS LOGIN   | Welcome Banner and News Items                                                                                                                       |                                                                                                                   |
| NEWS PHONE   | Direct Dial and Telecommunication Network Access to STN                                                                                             |                                                                                                                   |
| NEWS WWW     | CAS World Wide Web Site (general information)                                                                                                       |                                                                                                                   |

Enter NEWS followed by the item number or name to see news on that specific topic.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 7 SEP 2004 HIGHEST RN 741217-26-51  
DICTIONARY FILE UPDATES: 7 SEP 2004 HIGHEST RN 741217-26-51

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

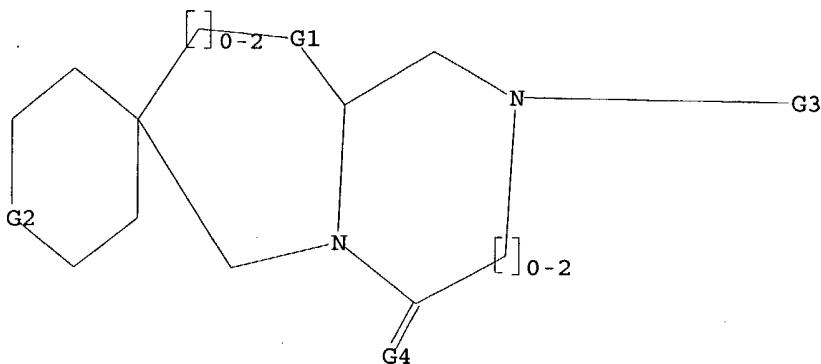
Crossover limits have been increased. See **HELP CROSSOVER** for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>  
Uploading c:\program files\stnexp\queries\10026606.26

L1 STRUCTURE UPLOADED

=> d 11  
L1 HAS NO ANSWERS  
L1 STR

G1 O, S, N, SO<sub>2</sub>, NH

G2 N, CH

G3 H, H<sub>y</sub>

G4 O, S

Structure attributes must be viewed using STN Express query preparation.

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=> s 11 sss full
FULL SEARCH INITIATED 12:26:54 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 230015 TO ITERATE
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100.0% PROCESSED 230015 ITERATIONS 15 ANSWERS  
 SEARCH TIME: 00.00.10

L2 15 SEA SSS FUL L1

|                      | SINCE FILE | TOTAL   |
|----------------------|------------|---------|
|                      | ENTRY      | SESSION |
| COST IN U.S. DOLLARS |            |         |
| FULL ESTIMATED COST  | 155.42     | 155.63  |

FILE 'CAPLUS' ENTERED AT 12:27:08 ON 08 SEP 2004  
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FILE COVERS 1907 - 8 Sep 2004 VOL 141 ISS 11  
 FILE LAST UPDATED: 7 Sep 2004 (20040907/ED)

This file contains CAS Registry Numbers for easy and accurate

substance identification.

=> s 12

L3 2 L2

=> d 13 fbib hitstr abs total

L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:521746 CAPLUS

DN 137:93770

TI Preparation of tricyclic spiro compounds and cholesterol biosynthesis inhibitors containing them as the active ingredient

IN Nishida, Hidemitsu; Mukaihira, Takafumi

PA Mochida Pharmaceutical Co., Ltd., Japan

SO PCT Int. Appl., 311 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 2

|    | PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                    | KIND | DATE     | APPLICATION NO. | DATE       |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|------------|
| PI | WO 2002053568                                                                                                                                                                                                                                                                                                                                                                                 | A1   | 20020711 | WO 2001-JP11656 | 20011228   |
|    | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
|    | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG                                                                                                                                                                                                |      |          | JP 2000-399998  | A 20001228 |
| EP | 1346994                                                                                                                                                                                                                                                                                                                                                                                       | A1   | 20030924 | EP 2001-272922  | 20011228   |
|    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR                                                                                                                                                                                                                                                                                     |      |          |                 |            |
|    |                                                                                                                                                                                                                                                                                                                                                                                               |      |          | JP 2000-399998  | A 20001228 |
|    |                                                                                                                                                                                                                                                                                                                                                                                               |      |          | WO 2001-JP11656 | W 20011228 |
| US | 2004063716                                                                                                                                                                                                                                                                                                                                                                                    | A1   | 20040401 | US 2003-451728  | 20030625   |
|    |                                                                                                                                                                                                                                                                                                                                                                                               |      |          | JP 2000-399998  | A 20001228 |
|    |                                                                                                                                                                                                                                                                                                                                                                                               |      |          | WO 2001-JP11656 | W 20011228 |

PATENT FAMILY INFORMATION:

FAN 2001:31501

|    | PATENT NO.                                                                                                                                                                                                                                                                                                                                                        | KIND | DATE     | APPLICATION NO. | DATE       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|------------|
| PI | WO 2001002397                                                                                                                                                                                                                                                                                                                                                     | A1   | 20010111 | WO 2000-JP4374  | 20000630   |
|    | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
|    | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG                                                                                                                                                                    |      |          | JP 1999-222883  | A 19990630 |
| EP | 1191028                                                                                                                                                                                                                                                                                                                                                           | A1   | 20020327 | EP 2000-940912  | 20000630   |
|    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO                                                                                                                                                                                                                                                                         |      |          |                 |            |

|               |    |          |                   |             |
|---------------|----|----------|-------------------|-------------|
|               |    |          | JP 1999-222883    | A 19990630  |
|               |    |          | WO 2000-JP4374    | W 20000630  |
| BR 2000012093 | A  | 20020716 | BR 2000-12093     | 20000630    |
|               |    |          | JP 1999-222883    | A 19990630  |
|               |    |          | WO 2000-JP4374    | W 20000630  |
| TR 200103853  | T2 | 20021121 | TR 2001-200103853 | 20000630    |
|               |    |          | JP 1999-222883    | A 19990630  |
| NZ 516363     | A  | 20040528 | NZ 2000-516363    | 20000630    |
|               |    |          | JP 1999-222883    | A 19990630  |
|               |    |          | WO 2000-JP4374    | W 20000630  |
| AU 774397     | B2 | 20040624 | AU 2000-55720     | 20000630    |
|               |    |          | JP 1999-222883    | A 19990630  |
|               |    |          | WO 2000-JP4374    | W 20000630  |
| ZA 2001010558 | A  | 20020912 | ZA 2001-10558     | 20011221    |
|               |    |          | JP 1999-222883    | A 19990630  |
| US 2003045520 | A1 | 20030306 | US 2001-26606     | 20011227    |
|               |    |          | JP 1999-222883    | A 19990630  |
|               |    |          | WO 2000-JP4374    | A2 20000630 |
|               |    |          | JP 2000-399998    | A 20001228  |
| NO 2001006402 | A  | 20020227 | NO 2001-6402      | 20011228    |
|               |    |          | JP 1999-222883    | A 19990630  |
|               |    |          | WO 2000-JP4374    | W 20000630  |

OS MARPAT 137:93770

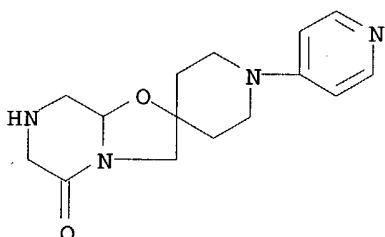
IT 318988-56-6P 318988-57-7P 441790-53-0P  
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 441790-67-6P 441790-69-8P 441790-77-8P  
 441790-78-9P 441790-79-0P 441790-83-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of tricyclic spiro compds. as oxidosqualene cyclase inhibitors and cholesterol biosynthesis inhibitors for preventives and therapeutic agents)

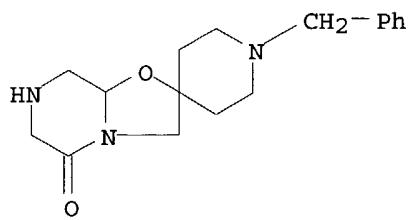
RN 318988-56-6 CAPLUS

CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one, tetrahydro-1'-(4-pyridinyl)- (9CI) (CA INDEX NAME)



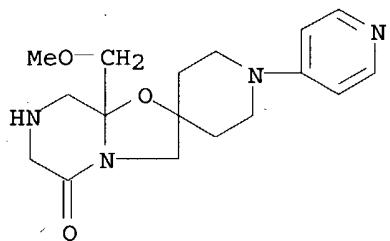
RN 318988-57-7 CAPLUS

CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one, tetrahydro-1'-(phenylmethyl)- (9CI) (CA INDEX NAME)



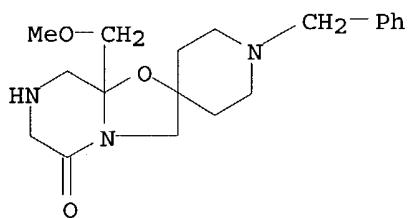
RN 441790-53-0 CAPLUS

CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one,  
tetrahydro-8a-(methoxymethyl)-1'-(4-pyridinyl)- (9CI) (CA INDEX NAME)



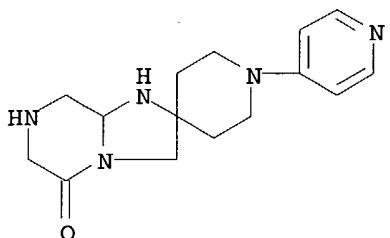
RN 441790-54-1 CAPLUS

CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one,  
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RN 441790-61-0 CAPLUS

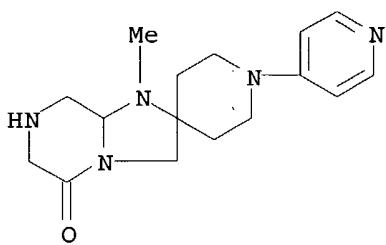
CN Spiro[imidazo[1,2-a]pyrazine-2(3H),4'-piperidin]-5(1H)-one,  
tetrahydro-1'-(4-pyridinyl)- (9CI) (CA INDEX NAME)



RN 441790-63-2 CAPLUS

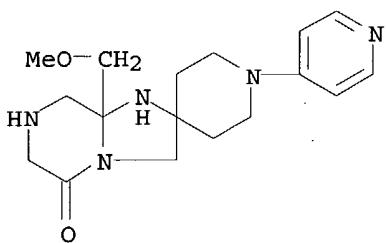
CN Spiro[imidazo[1,2-a]pyrazine-2(3H),4'-piperidin]-5(1H)-one,

tetrahydro-1-methyl-1'-(4-pyridinyl)- (9CI) (CA INDEX NAME)



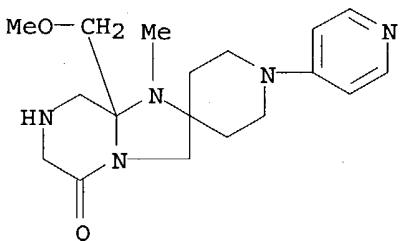
RN 441790-67-6 CAPLUS

CN Spiro[imidazo[1,2-a]pyrazine-2(3H),4'-piperidin]-5(1H)-one,  
tetrahydro-8a-(methoxymethyl)-1'-(4-pyridinyl)- (9CI) (CA INDEX NAME)



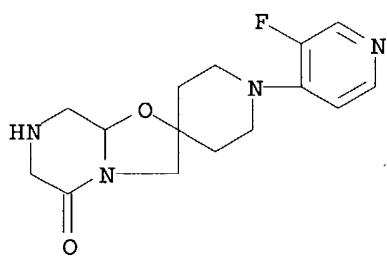
RN 441790-69-8 CAPLUS

CN Spiro[imidazo[1,2-a]pyrazine-2(3H),4'-piperidin]-5(1H)-one,  
tetrahydro-8a-(methoxymethyl)-1-methyl-1'-(4-pyridinyl)- (9CI) (CA INDEX  
NAME)

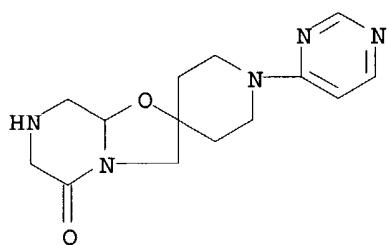


RN 441790-77-8 CAPLUS

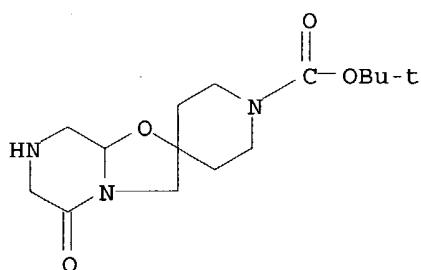
CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one,  
1'-(3-fluoro-4-pyridinyl)tetrahydro- (9CI) (CA INDEX NAME)



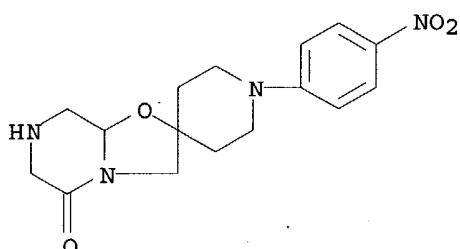
RN 441790-78-9 CAPLUS  
 CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H), 4'-piperidin]-5-one,  
 tetrahydro-1'-(4-pyrimidinyl)- (9CI) (CA INDEX NAME)



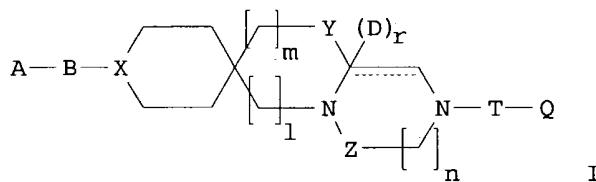
RN 441790-79-0 CAPLUS  
 CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H), 4'-piperidine]-1'-carboxylic acid,  
 tetrahydro-5-oxo-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 441790-83-6 CAPLUS  
 CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H), 4'-piperidin]-5-one,  
 tetrahydro-1'-(4-nitrophenyl)- (9CI) (CA INDEX NAME)



GI



AB Disclosed are orally administrable cholesterol biosynthesis inhibitors and oxidosqualene cyclase inhibitors which contain as the active ingredients tricyclic spiro compds., i.e. 1,4-diaza-7-oxaspiro[bicyclo[4.3.0]nonane-8,4'-piperidine]-2-one and 1,4,7-triazaspiro[bicyclo[4.3.0]nonane-8,4'-piperidine]-2-one derivs. represented by the general formula (I) or salts thereof: [wherein A = H, (un)substituted 5- or 6-membered (un)saturated heterocyclic or carbocyclic group, (un)substituted NH<sub>2</sub> or imidoyl; B = a single bond, carbonyl, S(O)<sub>x</sub> (x = 0,1,2), C1-2 alkylene; D = H, COR<sub>5</sub> (R<sub>5</sub> = H, substituent), (un)substituted C1-6 alkyl; X = N, CH optionally substituted by A'-B' group (A' and B' are selected from groups defined in A and B, resp.); Y = O, S(O)<sub>y</sub> (y = 0,1,2), NH; Z = CH<sub>2</sub>, CO, C(:S); T = SO<sub>2</sub>, CO, S(O)<sub>z</sub> (z = 0,1,2), a single bond, (un)substituted C1-2 alkylene; Q = (un)substituted hydrocarbon or heterocyclic group; m, n, p = 0,1, or 2, provided that m and p are not simultaneously 0; q = 0,1; each of 3 rings cong. X, Y, and Z is optionally substituted; the solid line accompanied by a dotted line represents a single bond or a double bond when q is 0]. These compds. inhibit oxidosqualene cyclase and in turn the conversion of 2,3-oxidosqualene into cholesterol and thereby exhibit potent serum cholesterol lowering effect and are useful for the prevention and/or treatment of cholesterol biosynthesis and oxidosqualene cyclase-related diseases such as hypercholesterolemia, hyperlipidemia, arteriosclerotic disease, myocardial infarction, angina pectoris, cerebral infarction, cerebral hemorrhage, aortic aneurysm, peripheral artery obstruction, nephrosclerosis, optic nerve atrophy, hydrocephalus, and fungal infection. Thus, Et<sub>3</sub>N and 4-bromobenzenesulfonyl chloride were added to a soln. of 1,4-diaza-4-(benzyloxycarbonyl)-7-oxaspiro[bicyclo[4.3.0]nonane-8,4'-piperidine]-2-one in CH<sub>2</sub>Cl<sub>2</sub> and stirred at room temperature for 10 min to give 1,4-diaza-4-(benzyloxycarbonyl)-1'-(4-bromobenzenesulfonyl)-7-oxaspiro[bicyclo[4.3.0]nonane-8,4'-piperidine]-2-one which was dissolved in MeCN, treated with trimethylsilyl iodide under ice-cooling, and stirred for 30 min under ice-cooling to give 1,4-diaza-1'-(4-bromobenzenesulfonyl)-7-oxaspiro[bicyclo[4.3.0]nonane-8,4'-piperidine]-2-one (II). II at 0.3 µg/mL in vitro inhibited the biosynthesis of cholesterol in mouse fibroblast L929 cells by 66%.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:31501 CAPLUS  
DN 134:100887  
TI Preparation of tricyclic compounds having spiro-piperidine as inhibitors of blood coagulation factor X (FXa) and anticoagulants  
IN Nishida, Hidemitsu; Saitoh, Fumihiro; Harada, Kousuke; Shiromizu, Ikuya  
PA Mochida Pharmaceutical Co., Ltd., Japan  
SO PCT Int. Appl., 305 pp.  
CODEN: PIXXD2

DT Patent  
 LA Japanese  
 FAN.CNT 2

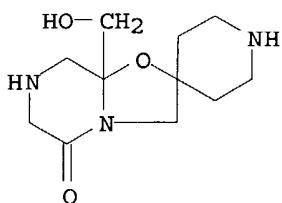
|    | PATENT NO.                                                                                                                                                                                                                                                                                                                                                        | KIND | DATE     | APPLICATION NO.   | DATE        |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-------------------|-------------|
| PI | WO 2001002397                                                                                                                                                                                                                                                                                                                                                     | A1   | 20010111 | WO 2000-JP4374    | 20000630    |
|    | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                   |             |
|    | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG                                                                                                                                                                            |      |          |                   |             |
| EP | 1191028                                                                                                                                                                                                                                                                                                                                                           | A1   | 20020327 | JP 1999-222883    | A 19990630  |
|    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO                                                                                                                                                                                                                                                                         |      |          | EP 2000-940912    | 20000630    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | WO 2000-JP4374    | W 20000630  |
| BR | 2000012093                                                                                                                                                                                                                                                                                                                                                        | A    | 20020716 | BR 2000-12093     | 20000630    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | WO 2000-JP4374    | W 20000630  |
| TR | 200103853                                                                                                                                                                                                                                                                                                                                                         | T2   | 20021121 | TR 2001-200103853 | 20000630    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
| NZ | 516363                                                                                                                                                                                                                                                                                                                                                            | A    | 20040528 | NZ 2000-516363    | 20000630    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | WO 2000-JP4374    | W 20000630  |
| AU | 774397                                                                                                                                                                                                                                                                                                                                                            | B2   | 20040624 | AU 2000-55720     | 20000630    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | WO 2000-JP4374    | W 20000630  |
| ZA | 2001010558                                                                                                                                                                                                                                                                                                                                                        | A    | 20020912 | ZA 2001-10558     | 20011221    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
| US | 2003045520                                                                                                                                                                                                                                                                                                                                                        | A1   | 20030306 | US 2001-26606     | 20011227    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | WO 2000-JP4374    | A2 20000630 |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 2000-399998    | A 20001228  |
| NO | 2001006402                                                                                                                                                                                                                                                                                                                                                        | A    | 20020227 | NO 2001-6402      | 20011228    |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | JP 1999-222883    | A 19990630  |
|    |                                                                                                                                                                                                                                                                                                                                                                   |      |          | WO 2000-JP4374    | W 20000630  |

## PATENT FAMILY INFORMATION:

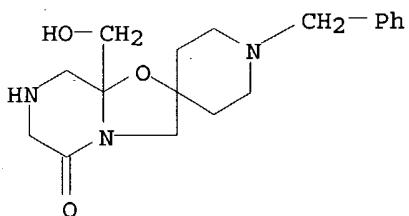
FAN 2002:521746

|    | PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                    | KIND | DATE     | APPLICATION NO. | DATE       |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|------------|
| PI | WO 2002053568                                                                                                                                                                                                                                                                                                                                                                                 | A1   | 20020711 | WO 2001-JP11656 | 20011228   |
|    | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
|    | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG                                                                                                                                                                                            |      |          |                 |            |
|    |                                                                                                                                                                                                                                                                                                                                                                                               |      |          | JP 2000-399998  | A 20001228 |
| EP | 1346994                                                                                                                                                                                                                                                                                                                                                                                       | A1   | 20030924 | EP 2001-272922  | 20011228   |
|    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR                                                                                                                                                                                                                                                                                     |      |          |                 |            |

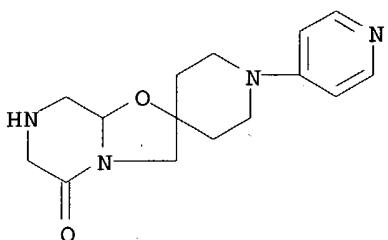
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------|------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| US 2004063716                                                                                                                                                                         | A1 | 20040401 | JP 2000-399998<br>WO 2001-JP11656<br>US 2003-451728<br>JP 2000-399998<br>WO 2001-JP11656 | A 20001228<br>W 20011228<br>20030625<br>A 20001228<br>W 20011228 |
| OS MARPAT 134:100887                                                                                                                                                                  |    |          |                                                                                          |                                                                  |
| IT 318988-48-6P, 1,4-Diaza-6-(hydroxymethyl)-7-oxaspiro[bicyclo[4.3.0]nonane-8,4'-piperidine]-2-one 318988-49-7P<br>318988-56-6P 318988-57-7P 318988-58-8P                            |    |          |                                                                                          |                                                                  |
| RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)                                                                                       |    |          |                                                                                          |                                                                  |
| (preparation of tricyclic compds. having spiro-piperidine as inhibitors of blood coagulation factor X (FXa) and anticoagulants or as pharmacophores in mol. designing Fxa inhibitors) |    |          |                                                                                          |                                                                  |
| RN 318988-48-6 CAPLUS                                                                                                                                                                 |    |          |                                                                                          |                                                                  |
| CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one, tetrahydro-8a-(hydroxymethyl)- (9CI) (CA INDEX NAME)                                                                    |    |          |                                                                                          |                                                                  |



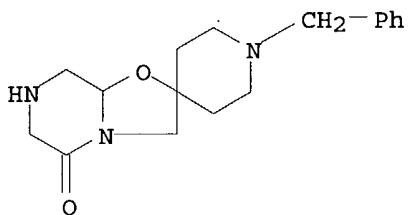
RN 318988-49-7 CAPLUS  
 CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one, tetrahydro-8a-(hydroxymethyl)-1'-(phenylmethyl)- (9CI) (CA INDEX NAME)



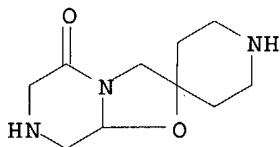
RN 318988-56-6 CAPLUS  
 CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one, tetrahydro-1'-(4-pyridinyl)- (9CI) (CA INDEX NAME)



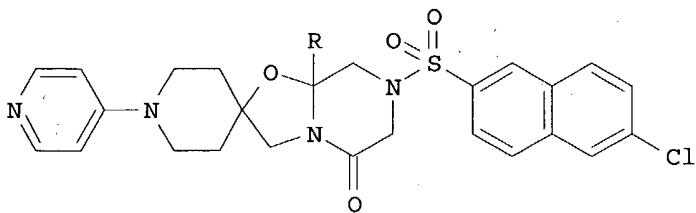
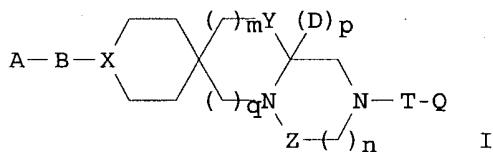
RN 318988-57-7 CAPLUS

CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one,  
tetrahydro-1'-(phenylmethyl)- (9CI) (CA INDEX NAME)

RN 318988-58-8 CAPLUS

CN Spiro[5H-oxazolo[3,2-a]pyrazine-2(3H),4'-piperidin]-5-one, tetrahydro-  
(9CI) (CA INDEX NAME)

GI



II

AB Aromatic compds. having cyclic amino which are represented by general formula (I) or salts thereof [wherein A = H, (un)substituted (un)saturated 5- to 6-membered cyclic hydrocarbyl or heterocyclyl, (un)substituted NH<sub>2</sub>, (un)substituted imidoyl; B = single bond, CO, SO, (un)substituted C<sub>1-2</sub> alkylene; D = H, (un)substituted CHO, (un)substituted C<sub>1-6</sub> alkyl; X = N, (un)substituted methine; Y = O, S(O)<sub>y</sub> (wherein y = 0,1,2), (un)substituted NH; Z = CH<sub>2</sub>, CO, C(S); T = S(O)<sub>z</sub> (wherein z = 0,1,2), CO, (un)substituted C<sub>1-2</sub> alkylene; Q = (un)substituted hydrocarbyl or heterocyclyl; m, n, q = 0, 1,2; p = 0,1; the three rings containing X, Y, or Z is optionally

substituted; the bond represented by a dotted and solid line in the ring containing Z is a single bond or a double bond when p = 0] are prepared. These compds. are useful as drugs, in particular, activated blood coagulation factor X inhibitors for the prevention and treatment of diseases caused by thrombus or embolism, influenza virus infection, or periodontosis, exert a potent anticoagulation effect, and can be orally administered. A pharmacophore derived from the above compds. is also useful in mol. designing Fxa inhibitors. Thus, 4-(aminomethyl)-1-benzyl-4-hydroxypiperidine was cyclocondensed with Et 2-[N-(3-acetoxy-2-oxopropan-1-yl)-N-(6-chloronaphthalene-2-ylsulfonyl)amino]acetate under reflux in the presence of p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H.H<sub>2</sub>O using a Dean-Stark trap to give 6-acetoxy-1,4-diaza-1'-benzyl-4-(6-chloronaphthalene-2-ylsulfonyl)-7-oxaspiro[bicyclo[4.3.0]nonan-8,4'-piperidine]-2-one which underwent saponification with a mixture of aqueous NaOH and MeOH, methylation by di-Me sulfate, and debenzylation with 1-chloroethyl chloroformate to give 1,4-diaza-4-(6-chloronaphthalene-2-ylsulfonyl)-6-(methoxymethyl)-7-oxaspiro[bicyclo[4.3.0]nonan-8,4'-piperidine]-2-one hydrochloride. The latter compound was condensed with 4-chloropyridine hydrochloride in the presence of diisopropylethylamine in 2-ethoxyethanol under reflux for 2 h to give 1,4-diaza-4-(6-chloronaphthalene-2-ylsulfonyl)-6-(methoxymethyl)-7-oxo-1'-(4-pyridyl)-spiro[bicyclo[4.3.0]nonan-8,4'-piperidine]-2-one (II; R = CH<sub>2</sub>OMe). II (R = CH<sub>2</sub>OMe) and II (R = CO<sub>2</sub>Et) showed IC<sub>50</sub> of 0.0032 and 0.0015  $\mu$ M, resp., against Fxa.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

|                                            |            |         |  |
|--------------------------------------------|------------|---------|--|
| => log y                                   |            |         |  |
| COST IN U.S. DOLLARS                       | SINCE FILE | TOTAL   |  |
|                                            | ENTRY      | SESSION |  |
| FULL ESTIMATED COST                        | 22.56      | 178.19  |  |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL   |  |
|                                            | ENTRY      | SESSION |  |
| CA SUBSCRIBER PRICE                        | -1.40      | -1.40   |  |

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LOGINID: sssptal611sxp

**PASSWORD:**

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|              |                                                                                                                                                     |                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| NEWS 1       | Web Page URLs for STN Seminar Schedule - N. America                                                                                                 |                                                                                                                   |
| NEWS 2       | "Ask CAS" for self-help around the clock                                                                                                            |                                                                                                                   |
| NEWS 3       | May 12                                                                                                                                              | EXTEND option available in structure searching                                                                    |
| NEWS 4       | May 12                                                                                                                                              | Polymer links for the POLYLINK command completed in REGISTRY                                                      |
| NEWS 5       | May 27                                                                                                                                              | New UPM (Update Code Maximum) field for more efficient patent SDIs in CAplus                                      |
| NEWS 6       | May 27                                                                                                                                              | CAplus super roles and document types searchable in REGISTRY                                                      |
| NEWS 7       | Jun 28                                                                                                                                              | Additional enzyme-catalyzed reactions added to CASREACT                                                           |
| NEWS 8       | Jun 28                                                                                                                                              | ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG, and WATER from CSA now available on STN(R)                  |
| NEWS 9       | Jul 12                                                                                                                                              | BEILSTEIN enhanced with new display and select options, resulting in a closer connection to BABS                  |
| NEWS 10      | Jul 30                                                                                                                                              | BEILSTEIN on STN workshop to be held August 24 in conjunction with the 228th ACS National Meeting                 |
| NEWS 11      | AUG 02                                                                                                                                              | IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields                                                  |
| NEWS 12      | AUG 02                                                                                                                                              | CAplus and CA patent records enhanced with European and Japan Patent Office Classifications                       |
| NEWS 13      | AUG 02                                                                                                                                              | STN User Update to be held August 22 in conjunction with the 228th ACS National Meeting                           |
| NEWS 14      | AUG 02                                                                                                                                              | The Analysis Edition of STN Express with Discover! (Version 7.01 for Windows) now available                       |
| NEWS 15      | AUG 04                                                                                                                                              | Pricing for the Save Answers for SciFinder Wizard within STN Express with Discover! will change September 1, 2004 |
| NEWS 16      | AUG 27                                                                                                                                              | BIOCOMMERCE: Changes and enhancements to content coverage                                                         |
| NEWS 17      | AUG 27                                                                                                                                              | BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC                             |
| NEWS 18      | SEP 01                                                                                                                                              | INPADOC: New family current-awareness alert (SDI) available                                                       |
| NEWS 19      | SEP 01                                                                                                                                              | New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!                           |
| NEWS 20      | SEP 01                                                                                                                                              | New display format, HITSTR, available in WPIDS/WPINDEX/WPIX                                                       |
| NEWS EXPRESS | JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004 |                                                                                                                   |
| NEWS HOURS   | STN Operating Hours Plus Help Desk Availability                                                                                                     |                                                                                                                   |
| NEWS INTER   | General Internet Information                                                                                                                        |                                                                                                                   |
| NEWS LOGIN   | Welcome Banner and News Items                                                                                                                       |                                                                                                                   |
| NEWS PHONE   | Direct Dial and Telecommunication Network Access to STN                                                                                             |                                                                                                                   |
| NEWS WWW     | CAS World Wide Web Site (general information)                                                                                                       |                                                                                                                   |

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FILE 'HOME' ENTERED AT 12:29:02 ON 08 SEP 2004

=> ile reg

ILE IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.  
For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> file reg

**COST IN U.S. DOLLARS**

| SINCE FILE<br>ENTRY | TOTAL<br>SESSION |
|---------------------|------------------|
| 0.21                | 0.21             |

FILE 'REGISTRY' ENTERED AT 12:29:13 ON 08 SEP 2004

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STRUCTURE FILE UPDATES: 7 SEP 2004 HIGHEST RN 741217-26-5  
DICTIONARY FILE UPDATES: 7 SEP 2004 HIGHEST RN 741217-26-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting Smart SELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

to the title summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

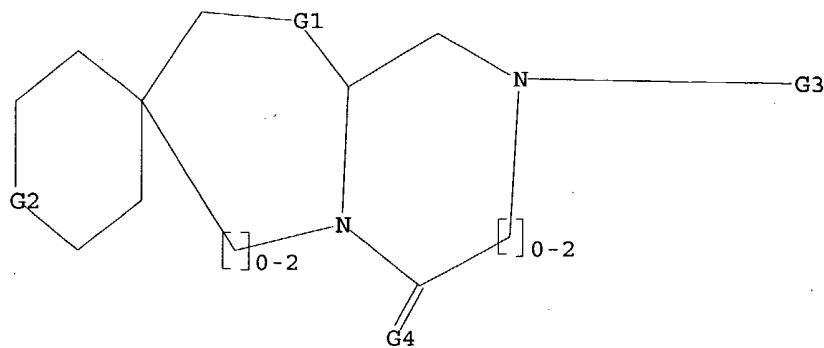
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=> Uploading c:\program files\stnexp\queries\10026606.27
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## STRUCTURE UPLOADED

=> d 11

## L1 HAS NO ANSWERS

THIS IS NO ANSWERS



G1 O,S,N,SO2,NH

G2 N,CH

G3 H,Hy

G4 O,S

Structure attributes must be viewed using STN Express query preparation.

=> s 11 sss full  
 FULL SEARCH INITIATED 12:29:55 FILE 'REGISTRY'  
 FULL SCREEN SEARCH COMPLETED - 15847 TO ITERATE

100.0% PROCESSED 15847 ITERATIONS  
 SEARCH TIME: 00.00.01

0 ANSWERS

L2 0 SEA SSS FUL L1

|                      |            |         |  |
|----------------------|------------|---------|--|
| => log y             |            |         |  |
| COST IN U.S. DOLLARS | SINCE FILE | TOTAL   |  |
| FULL ESTIMATED COST  | ENTRY      | SESSION |  |
|                      | 155.42     | 155.63  |  |

STN INTERNATIONAL LOGOFF AT 12:30:01 ON 08 SEP 2004

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PASSWORD:  
TERMINAL (ENTER 1, 2, 3, OR ?):2

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 SEP 09 CA/CAPLUS records now contain indexing from 1907 to the present  
NEWS 4 DEC 08 INPADOC: Legal Status data reloaded  
NEWS 5 SEP 29 DISSABS now available on STN  
NEWS 6 OCT 10 PCTFULL: Two new display fields added  
NEWS 7 OCT 21 BIOSIS file reloaded and enhanced  
NEWS 8 OCT 28 BIOSIS file segment of TOXCENTER reloaded and enhanced  
NEWS 9 NOV 24 MSDS-CCOHS file reloaded  
NEWS 10 DEC 08 CABA reloaded with left truncation  
NEWS 11 DEC 08 IMS file names changed  
NEWS 12 DEC 09 Experimental property data collected by CAS now available in REGISTRY  
NEWS 13 DEC 09 STN Entry Date available for display in REGISTRY and CA/CAPLUS  
NEWS 14 DEC 17 DGENE: Two new display fields added  
NEWS 15 DEC 18 BIOTECHNO no longer updated  
NEWS 16 DEC 19 CROPU no longer updated; subscriber discount no longer available  
NEWS 17 DEC 22 Additional INPI reactions and pre-1907 documents added to CAS databases  
NEWS 18 DEC 22 IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields  
NEWS 19 DEC 22 ABI-INFORM now available on STN  
NEWS 20 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable  
NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CAPLUS  
NEWS 22 FEB 05 German (DE) application and patent publication number format changes  
NEWS 23 MAR 03 MEDLINE and LMEDLINE reloaded  
NEWS 24 MAR 03 MEDLINE file segment of TOXCENTER reloaded  
NEWS 25 MAR 03 FRANCEPAT now available on STN  
  
NEWS EXPRESS MARCH 5 CURRENT WINDOWS VERSION IS V7.00A, CURRENT  
MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),  
AND CURRENT DISCOVER FILE IS DATED 3 MARCH 2004  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
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NEWS WWW CAS World Wide Web Site (general information)

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STRUCTURE FILE UPDATES: 12 MAR 2004 HIGHEST RN 662722-88-5  
DICTIONARY FILE UPDATES: 12 MAR 2004 HIGHEST RN 662722-88-5

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

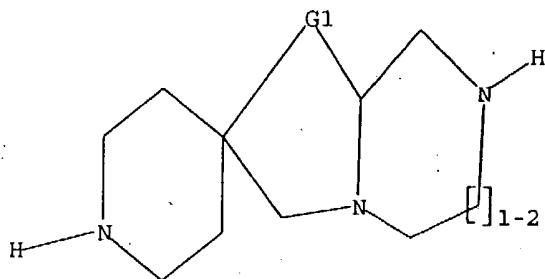
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> Uploading c:\program files\stnexp\queries\10026606.12

L1 STRUCTURE UPLOADED

=> d 11  
L1 HAS NO ANSWERS  
L1 STR



G1 O,S,SO2,NH

G2 H,O,S

Structure attributes must be viewed using STN Express query preparation.

=> s 11 sss full  
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 FULL SCREEN SEARCH COMPLETED - 1402 TO ITERATE

100.0% PROCESSED 1402 ITERATIONS 2 ANSWERS  
 SEARCH TIME: 00.00.01

L2 2 SEA SSS FUL L1

=> file marpat  
 COST IN U.S. DOLLARS SINCE FILE TOTAL  
 ENTRY SESSION  
 FULL ESTIMATED COST 155.42 155.63

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FILE CONTENT: 1988-PRESENT (VOL 140 ISS 10) (20040307/ED)

MOST RECENT CITATIONS FOR PATENTS FROM FIVE MAJOR ISSUING AGENCIES  
 (COVERAGE TO THESE DATES IS NOT COMPLETE):

US 6683216 27 JAN 2004  
 DE 10317487 12 FEB 2004  
 EP 1388563 11 FEB 2004  
 JP 2004047131 12 FEB 2004  
 WO 2004011964 05 FEB 2004

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=> s 11 sss full  
 FULL SEARCH INITIATED 09:55:13 FILE 'MARPAT'  
 FULL SCREEN SEARCH COMPLETED - 188320 TO ITERATE